

Procedure Information Sheet - Total Knee Replacement

Introduction

- Total Knee Replacement is a surgery involving replacing your existing diseased cartilage and bone in the knee joint by a prosthesis composed of metal and plastic. There are usually three components: femoral prosthesis, tibial prosthesis and patellar prosthesis.
- The knee joint can be divided into two parts: femoral-tibial articulation and femoral-patellar articulation. Depending on the severity of disease in your knee, the femoral-tibial articulation, with or without the femoral-patellar articulation, will be replaced by the prosthesis.

Indications

1. End stage arthritis of the knee joint.
 - Usually due to osteoarthritis, rheumatoid arthritis.
 - Sometimes gouty arthritis, osteonecrosis, ankylosing spondylitis, haemophilia, Charcot joint etc.
2. Occasionally for tumor, fracture etc.
3. The most common symptoms in end-stage arthritis are pain, deformity and stiffness. Occasionally, patients may complain of instability of the joint.
4. After surgery, pain is usually much reduced. Original deformity and stiffness are usually improved. However, the range of motion is usually not as good as a normal knee. If the knee range was already very good before the surgery, it is difficult to further improve the range of motion.

Procedure

1. The operation is performed under general /regional anaesthesia.
2. You need antibiotic prophylaxis for the operation. Please inform your doctor or nurse if you have drug allergy history.
3. A tourniquet may be put around the thigh region of the limb. It will be inflated during the procedure to decrease the blood flow to the leg.
4. Incision is made in the anterior aspect of the knee joint.
5. Diseased cartilage and bone are then removed. The femoral prosthesis and tibia prosthesis are usually fixed to the bone by cement or other mechanical means. If your patella needs to be replaced, your surgeon will implant the patella prosthesis.
6. Drain(s) may be inserted for drainage purpose.

Procedure Information Sheet - Total Knee Replacement

Pre-operative preparation

1. You will need to sign a consent form and your doctor will explain to you the reason, procedure and possible complications.
2. Optimization of pre-existing medical conditions, e.g. heart disease, hypertension, diabetes mellitus, anaemia, asthma etc.
3. Keep fast for 6-8 hours before operation.

Possible risks and complications

A. In General

Like other surgical procedures, there are associated risks and complications with total knee replacement surgery, for example, those associated with anaesthesia, wound complication, pneumonia, stroke, heart attack etc.

B. Specific complications

Total Knee Replacement is a safe and well accepted surgical procedure internationally. However, similar to other surgical procedures, there are still chances to encounter potential undesirable effects and complications.

1. Revision Surgery
 - The artificial joint is expected to suffer from mechanical wear. The joint will be loosened eventually and revision surgery will be required.
2. Infection
 - One of the biggest enemies of artificial joint replacement is infection. The infection rate increases if you have adverse comorbidity, for example, diabetes mellitus.
3. Dislocation
 - The chance of dislocation in a total knee replacement is infrequent.
4. Nerve palsy
 - Nerve may be injured during total knee replacement. Nerve injury can result in loss of sensation and function. Some numbness of skin around and at the outer side of the incision should be expected.
5. Bleeding
 - Some amount of blood loss during a total knee replacement is expected and transfusion may be required.
6. Vascular injury
 - There is a remote chance of major vessel injury during total knee replacement. Major vascular injury may result in the loss of a limb.
7. Fracture
 - Fracture can occur both within the operation and in the post-operative period.

Procedure Information Sheet - Total Knee Replacement

8. Problem in wound healing
 - The problem encountered in wound healing may range from persistent wound discharge to wound edge necrosis and wound dehiscence, which may require further surgical reconstruction.
9. Thromboembolic disease
 - Deep vein thrombosis after total knee replacement is not uncommon. However, the chance of subsequent pulmonary embolism is low. Death can follow pulmonary embolism but the incidence is very low.
10. Complications associated with extensor mechanism of knee
 - The complications of extensor mechanism complication include symptomatic patellar instability leading to the need of re-operation, patellar fracture, rupture of patellar tendon and soft tissue impingement problem.
11. Stiffness
 - Stiffness occurs occasionally after surgery which may require any further treatment.

Possible additional procedures

1. Transfusion
 - Bleeding is inevitable in total knee replacement. Blood transfusion may be required.
2. Additional Procedure for Fixation of Fracture
 - The chance of intra-operative fracture is low. However, if fracture is encountered, your surgeon may need to stabilize the fracture by extending the wound and fixing the fracture with additional metal implants.
3. Additional Vascular Procedure
 - Despite the chance of major vessel injury in total knee replacement is remote; the consequence of such injury can be devastating and may lead to potential loss of the limb. If such injury occurs, vascular surgery will be needed.
4. Catheterization of bladder may be performed.

Post-operative information

A. Hospital care

1. You will be allowed to eat and drink when your condition is stable.
2. You need to wear anti-embolic stockings and start mobilization exercise of the ankle. This will help the circulation of blood inside your calf and decrease the chance of deep vein thrombosis.

Procedure Information Sheet - Total Knee Replacement

3. Physiotherapy will be started later to maintain the range of motion gained during the operation. These include achievement of full extension, maximal flexion and regaining the strength of quadriceps. After a few days, therapists will start to train you to walk.
4. The stitches / staples will be removed after the wound heals.

B. Home care after discharge

1. You should keep your wound clean and dry.
2. Follow the instruction on taking medication as prescribed by your doctor.
3. Please contact your doctor or go back to hospital if excessive bleeding, collapse, severe pain or signs of infection at your wound site such as redness, swelling or fever (body temperature above 38°C or 100°F) occurs.
4. Follow up on schedule as instructed by your doctor.

Alternative Treatment

Your surgeons will consider total joint replacement for you only if the symptoms cannot be controlled after exhausting other means of conservative treatments, including analgesics, physiotherapy and activities modification. On the other hand, total knee replacement is not a life saving surgery. One can always select to adopt conservative treatments, despite the presence of significant symptoms in terms of pain, stiffness and deformity.

Remark

The above mentioned procedural information is not exhaustive, other unforeseen complications may occur in special patient groups or individual differently. Please contact your physician for further enquiry.

Reference: http://www21.ha.org.hk/smartpatient/tc/operationstests_procedures.html

I acknowledge that the above information concerning my operation/procedure has been explained to me by Dr. _____. I have also been given the opportunity to ask questions and receive adequate explanations concerning my condition and the doctor's treatment plan.

Name:	
Pt No.:	Case No.:
Sex/Age:	Unit Bed No:
Case Reg Date & Time:	
Attn Dr:	

Patient / Relative Signature: _____

Patient / Relative Name: _____

Relationship (if any): _____

Date: _____